UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,337	10/15/2004	Frank David Wayne	TS9280 US	2169

7590 04/04/2008

Yukiko Iwata
Shell Oil Company
Intellectual Property
PO Box 2463
Houston, TX 77252-2463

EXAMINER	
CAMPANELL, FRANCIS C	

ART UNIT	PAPER NUMBER
1797	

MAIL DATE	DELIVERY MODE
04/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/511,337	WAYNE, FRANK DAVID	
	Examiner	Art Unit	
	FRANCIS C. CAMPANELL	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/15/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3-4, 6-13, 15-16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Duling et al (US 3966624) and WO 96/11244.

3. Regarding claims 1, 3-4, 6-7, 9-10, 15-16, Duling teaches a lubricant mixture and process for a traction drive (abstract) and hydraulics systems (column 8 lines 5-10) containing;

4. A. A diluent that can be organic esters (column 6 lines 35-40, it is well known in the art and therefore obvious that there are adamantane esters that boil in the range of 50 to 200 C.), or decalin (column 6 lines 20-25 and 45-60).

5. B. A base fluid that can be a hydrogenated mixture of dimers and trimers of alphamethyl styrene (column 7 lines 3-15). This base fluid has a traction coefficient greater than 0.08 (column 18 table 5), and a viscosity of less than 100 mPA at 90 C to 150C (column 7 lines 1-10).

6. C. Control of a multitude of properties is preformed in a warm operating condition (column 6 lines 45-50) to find an optimal mixtures for a variety of given use (column 29 lines 45-50 and column 8 lines 4-10) . The properties include traction coefficient, glass transition temperature, (as seen in table 5 above, column 29 lines 55-65) and VTF-VI (column 9 lines 65-

70). The two are base and diluent are miscible under all operating conditions (column 6 lines 45-55)

7. Duling does not teach reversibly diluting the base fluid.

8. WO 96/11244 teaches mixing two liquids in a lubricant process and mixture and detecting properties of the mixture. (page 7 lines 5-25). This mixture can be miscible under working conditions (page 9 line 16-25). The base fluid may be polyalkylene glycol (page 8 lines 35-40). The lubricant is suitable for traction specific lubricants (page 14 lines 26-34). The mixture has its properties controlled by response to change in the operating conditions. These properties include temperature, miscibility, and viscosity (page 16 lines 15-30). The mixture is reversibly diluted, with the removal method including distillation (page 15 lines 35-40 and page 4 lines 1-10). WO 96/11244 providing a base fluid in which the properties are optimal for "warm" operating conditions.

9. It would have been obvious to one of ordinary skill in the art at the time of the invention to use be able to reversibly dilute the system of Duling as taught in WO 96/11244. The compounds used in Duling are expensive (column 23 lines 55-60) and tested and changed many times (table taking up columns 31-40). Hence the reversible dilution in WO 96/11244 would be an effective money and lubricant saving method in both the testing and production of the invention of Duling.

10. Regarding claim 6, Duling teaches the use of a decalin (see above). Applicant admits that a well known and marketed form of decalin (cypar-9, found on page 11 of instant specification) fits all the known limitations in claim 6. The use of Cypar-9 is well known in the art, and therefore obvious.

11. Regarding claim 8, water is a well known diluent in lubricating compositions, water is well known to change the properties of any given lubricant composition, and water is well known as being cheap. The use of water is such a lubricating composition is well known, and therefore obvious.

12. Regarding claims 11-12, WO 96/11244 teaches the use of distillation (see above). Both electrical heating stages and preheated fluids as sources of energy and reuse of heat in distillation are well known to one of ordinary skill in the art of mixing lubricant or to of ordinary skill in the art of chemistry. They are therefore obvious.

13. Regarding claim 13, WO 96/11244 teaches

14. i. Reservoir for the diluent or other part of the lubricant

15. ii. Mixing an dispensing means

16. iii. Separation by distillation, which would inherently include vaporization.

17. IV enabling the contents of the mixing zone to contact an operating component of the system. See the figure in the abstract.

18. Claims 2 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duling et al (US 3966624) and WO 96/11244. and Bovington et al (US 5962381)

19. Regarding claims 2 and 17-21, please see above for claim 1 and claims 17-21, for what is taught and not taught in Duling et al (US 3966624) and WO 96/11244. Bovington teaches a lubricant composition where both traction and oil film thickness are controlled to change the operating conditions. See abstract and column 5 lines 1-10. Bovington does not teach reversibly diluting. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the film thickness as a controlled property in the invention of Duling as taught in

Bovington. The film thickness can be used to determine a wide range of properties in a lubricant solution (Column 1 lines 25-70) and is an effective indicator of the state of a lubricant mixture. Additionally, it well known to use film thickness as an indicator in the type of solution taught by Duling (see Duling column 4 lines 5-10).

20. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duling et al (US 3966624) and WO 96/11244. and Walters et al (US 5342531)

Regarding claims 5 and 14 for what is taught and not taught in Duling et al (US 3966624) and WO 96/11244. Walters teaches a polyalkylene glycol lubricant as a base fluid (abstract) for use in a hydraulic system. (column 9 lines 20-32) Walters does not teach reversibly diluting. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the polyalkylene glycol as taught in Walters in the invention of Duling. The polyalkene glycol of Walters is particularly well suited to hydraulic systems. (column 9 lines 25-30).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANCIS C. CAMPANELL whose telephone number is (571)270-3165. The examiner can normally be reached on Mon-Fri 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FCC

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797